

# QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR TELECOM INDUSTRY

## What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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## Introduction

### Qualifications Pack – Cluster In-Charge

**SECTOR:** TELECOM

**SUB-SECTOR:** Passive Infrastructure

**OCCUPATION:** Operation and Maintenance

**REFERENCE ID:** TEL/Q4101

**ALIGNED TO:** NCO-2015/3113.0901

**Cluster In-Charge (CI)** in the telecom industry is also known as a Supervisor / Cluster Supervisor/ Cluster Engineer.

**Brief Job Description:** Individual at this job needs to ensure increase in site up-time and reduce energy cost; monitor preventive maintenance, corrective maintenance and on-site repair, through regular site visits and audits; maintain hygiene of the tower site; train site technicians; develop healthy relationship with landlords & vendors; handle all types of issues/fault on site and control other operational expenses.

**Personal Attributes:** This job requires the individual to be technically qualified; self-disciplined; action-orientated; people management skills; possess analytical skills; problem solving ability; effective communication skills and ability to work under pressure.



Definitions	Keywords /Terms	Description
	Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for
	Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS
	Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization
	Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge
	NOS (National Occupational Standards)	NOS are Occupational Standards which apply uniquely in the Indian context
	Occupation	Occupation is a set of job roles under which role-holders perform similar/related set of functions in an industry
	Occupational Standards	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts
	Organizational Context	Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
	Performance Criteria	Performance criteria are statements that together specify the standards of performance required when carrying out a task.
	QP (Qualification Pack)	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code
	Qualification Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack
	Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with, in carrying out the function which has a critical impact on the quality of performance required
	Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components	
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities	
Unit Code	Unit Code is a unique identifier for an OS unit, which can be denoted with either an 'O' or an 'N'	
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do	
Vertical	Vertical may exist within a sub-sector representing different domain	

	areas or the client industries served by the industry
TAT (Turn around time)	The time taken to resolve a request or a complaint of the customer
Telecom	Is a communication sector consisting of companies who provide telephonic communication facilities to the public
Escalation matrix	The channel for escalating the issue/problem of the customer to a supervisor or senior who possesses more expertise in handling and resolving customer's concern
OPCO (Operating Company)	The company that is the actual manufacturer of a product or service. In this case service providers are the operating companies
Site optimization	Upgrading the passive infrastructure
Mobile towers – Tower on wheels	A station in a land mobile system which remains in a fixed location and communicates with the mobile stations
AC (Air conditioners)	An <b>air conditioner</b> (often referred to as <b>air con</b> , <b>AC</b> or <b>A/C</b> ) is a major or home appliance, system, or mechanism designed to change the air temperature and humidity within an area (used for cooling and sometimes heating depending on the air properties at a given time)
Warranty	A warranty describes the conditions under, and period during, which the producer or vendor will repair, replace, or compensate for the defective item without cost to the buyer or user. Often it also delineates the rights and obligations of both parties in case of a claim or dispute
Cluster	Group of 50-120 tower sites
OPEX (Operating Expenditure)	Is an ongoing cost for running a product, business or system. In business, an operating expense is a day-to-day expense such as sales and administration, or research and development, as opposed to production, costs and pricing

The following acronyms/codes have been used in the nomenclature above:

Keywords /Terms	Description
ZOM	Zonal Operation Manager
O&M	Operations & Maintenance
PIU	Power Interface Unit
SMPS	Switch-Mode Power Supply
BTS	Base Transceiver Station
BSC	Base Station Controller
MSC	Mobile Switching Center
DG	Diesel Generator
EB	Electricity Board
NOC	Network operating centre
GBT	Ground based tower
RTP	Roof Top Tower

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# National Occupational Standard



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## Overview

**This unit is about maintaining site hygiene, regular site and technician's audit and taking corrective actions against identified deficiencies.**



TEL/N4105

### Maintain site hygiene

Service Provider

<b>Unit Code</b>	TEL/N4105
<b>Unit Title (Task)</b>	Maintain site hygiene
<b>Description</b>	This OS unit is about maintaining the functionality of tower site.
<b>Scope</b>	<p>This unit/task covers the following:</p> <p>Key stakeholders:</p> <ul style="list-style-type: none"> <li>• tower technician</li> <li>• cluster in-charge/supervisor</li> <li>• vendor</li> <li>• landlord</li> </ul> <p>Compliance audit for:</p> <ul style="list-style-type: none"> <li>• technicians</li> <li>• sites</li> </ul> <p>Maintain site hygiene</p>
<b>Performance Criteria(PC) w.r.t. the Scope:</b>	
<b>Element</b>	<b>Performance Criteria</b>
	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. maintain excellent level of site quality like proper cable laying, correct temperature, correct settings, site in auto mode etc.</p> <p>PC2. provide for safety of assets and the team</p> <p>PC3. periodic audit by visiting sites to assure that civil, tower, electrical and other infrastructure are in the best state</p> <p>PC4. conduct periodic compliance audit of technicians, vendors, spares including any ethical issues incorrect billing calculations, diesel or energy cost etc.</p> <p>PC5. check for maintenance of site cleanliness and hygiene of AC, DG, PIU, SMPS, battery bank and shelter, as per organization's norms</p> <p>PC6. maintain work standards despite movement of manpower</p> <p>PC7. check and resolve site lock issues with landlord, legal etc.</p>
<b>Knowledge and Understanding</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization & its process relevant to area of	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. OPCO's policies and standards followed by the company, to maintain sites</p> <p>KA2. repair and maintenance guidelines of the company to verify standards of repair / maintenance done on site</p> <p>KA3. asset layout as per company standards</p> <p>KA4. understanding of usage &amp; wastage of energy at sites</p>

TEL/N4105

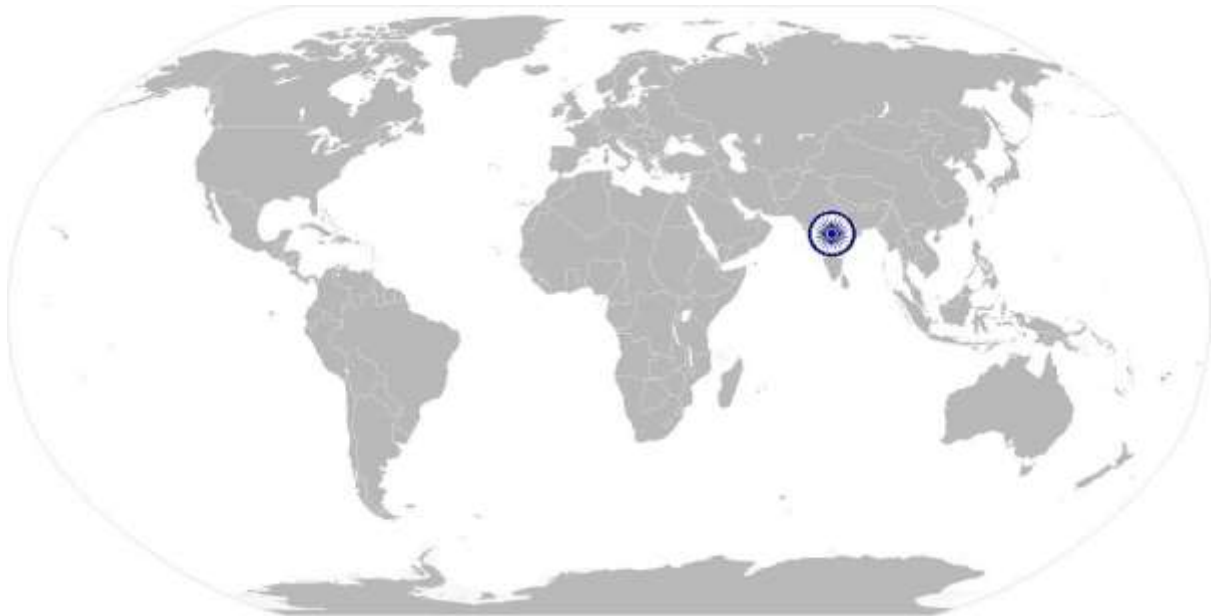
### Maintain site hygiene

responsibilities)	
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. preparation and execution process of assigned site visit plan</p> <p>KB2. technical structuring of equipments installed on site to check preventive maintenance and repair done on site</p> <p>KB3. formats and checklists to verify preventive maintenance / repair of installed equipments</p> <p>KB4. importance of safety training for the individual</p> <p>KB5. basics of computers and MS excel</p> <p>KB6. use of mechanical equipments</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read and comprehend company polices and guidelines to maintain site standards</p> <p>SA2. read and comprehend formats and checklists for PM (preventive maintenance) by vendors/ technicians</p>
	<b>Writing Skills</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. publish complete and correct fault analysis report</p>
<b>B. Professional Skills</b>	<b>Analytical Skills</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. diagnose reasons of down-time by analyzing site-down incidences</p> <p>SB2. perform fault analysis to find recurring faults on site</p> <p>SB3. analyze energy w.r.t power &amp; fuel consumption patterns</p>
	<b>Quality Tools</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB4. implement various quality tools to reduce technical problems, minimize down-time and recurring faults</p>
	<b>Relationship Building</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB5. maintain healthy relationship with the landlord</p>





# National Occupational Standard



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## Overview

This unit is about maintaining site up-time to ensure high operational availability in line with SLAs.



TEL/N4106

**Maintain site up-time**

Service Provider

<b>Unit Code</b>	TEL/N4106
<b>Unit Title (Task)</b>	Maintain site up-time
<b>Description</b>	This OS unit is about maintaining site up-time.
<b>Scope</b>	<p>This unit/task covers the following:</p> <p>Key stakeholders:</p> <ul style="list-style-type: none"> <li>• cluster in-charge/supervisor</li> <li>• tower technician</li> <li>• OPCOs</li> </ul> <p>Monitor tower up-time and operate with less/ zero faults</p> <p>Maintain existing sites for OPCOs (Operating companies)</p> <p>Supervise technicians to ensure tower maintenance at regular intervals</p>
<b>Performance Criteria(PC) w.r.t. the Scope:</b>	
<b>Element</b>	<b>Performance Criteria</b>
	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. create a PM (preventive maintenance) plan for self and the technicians</p> <p>PC2. create and monitor Beat plan execution, for self and technicians</p> <p>PC3. monitor site PM (preventive maintenance)</p> <p>PC4. perform health check on site like checking engine oil, voltage etc.</p> <p>PC5. validate periodic maintenance check conducted by the vendor technicians</p> <p>PC6. monitor site faults, ensure timely rectification and devise solution of the recurring faults</p> <p>PC7. create fault analysis and up-time report for all sites of the cluster</p> <p>PC8. maintain zero breakdown delivery for cluster, to optimize Operating Expenditure (OPEX)</p> <p>PC9. share best practices of technicians to maintain site up-time, through e-mails/meetings</p>
<b>Knowledge and Understanding</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization & its process relevant to area of	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. OPCOs policies and standards followed by the company to maintain sites</p> <p>KA2. site up-time targets of the company, to avoid penalties</p> <p>KA3. repair and maintenance guidelines of the company to verify standards of repair / maintenance done on site</p> <p>KA4. impact of OPEX (operating expenditure) on the company</p>



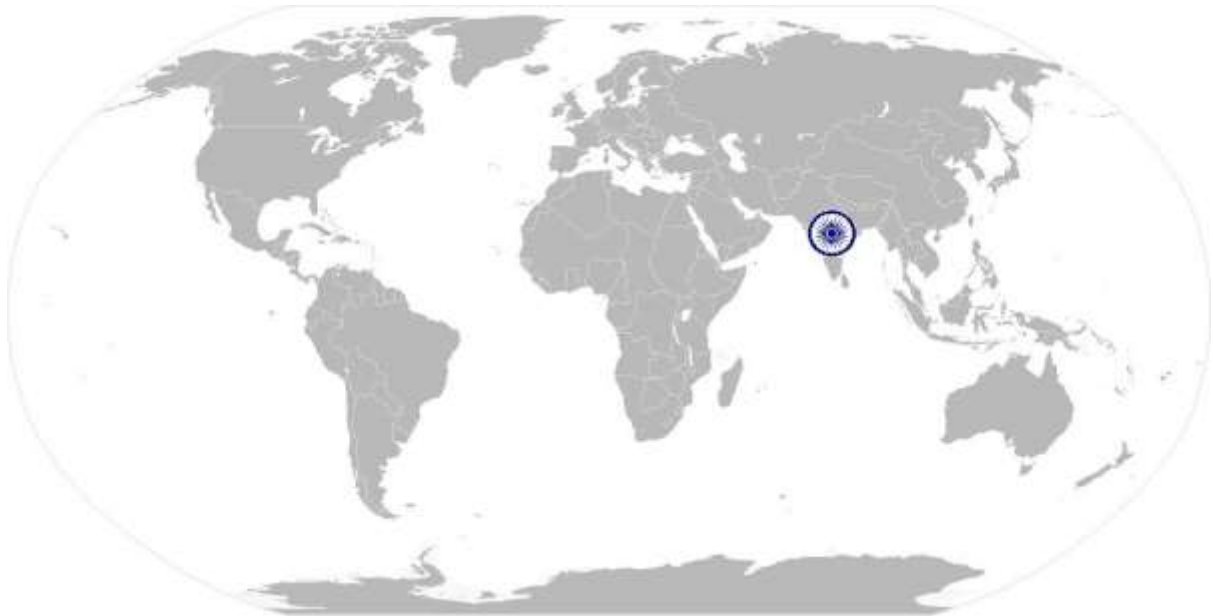
TEL/N4106

**Maintain site up-time**

responsibilities)	
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> <li>KB1. preparation and execution process of assigned site visit plan for self and technicians</li> <li>KB2. technical structuring of equipments installed on site to check preventive maintenance and repair done on site</li> <li>KB3. formats and checklists to verify preventive maintenance / repair of installed equipments</li> <li>KB4. basics of computers and MS excel</li> <li>KB5. importance of safety training for the individual</li> </ul>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<p><b>Reading Skills</b></p> <p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SA1. read and comprehend company polices and guidelines to maintain site standards</li> <li>SA2. read and comprehend formats and checklists to verify PM (preventive maintenance) / repair done by vendors/ technicians</li> </ul> <p><b>Writing Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SA3. publish complete and correct fault analysis report</li> <li>SA4. write an email to share best practices performed by technicians, to increase of site up-time</li> </ul>
<b>B. Professional Skills</b>	<p><b>Analytical Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB1. diagnose reasons of down-time through up-time analysis</li> <li>SB2. perform fault analysis to find recurring faults on site</li> </ul> <p><b>Quality Maximization Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB3. implement various quality tools to reduce technical problems, minimize down-time and recurring faults</li> </ul> <p><b>Team Management Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB4. engage and enthuse technicians, to maintain site up-time</li> </ul>



# National Occupational Standard



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## Overview

This unit is about OPEX (operational expenditure) management and regulating impact of increase in expenditure.



TEL/N4107

**OPEX management**

Service Provider

<b>Unit Code</b>	TEL/N4107
<b>Unit Title (Task)</b>	OPEX management
<b>Description</b>	This OS unit is about OPEX (operational expenditure) management and regulating impact of increase in expenditure.
<b>Scope</b>	<p>This unit/task covers the following: Key stakeholders:</p> <ul style="list-style-type: none"> <li>• cluster in-charge/supervisor</li> <li>• zonal manager/cluster manager</li> <li>• OPCOs</li> </ul> <p>Manage OPEX (operating expenditure) to avoid impact on OPCOs</p>
<b>Performance Criteria(PC) w.r.t. the Scope:</b>	
<b>Element</b>	<b>Performance Criteria</b>
	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. maintain energy cost through site automation, diesel cost per tenant etc. PC2. troubleshoot DG/Battery bank PC3. identify scope for security head count reduction and inform Zonal Manager PC4. check proper locking of main gate / DG / Shelter etc. PC5. govern vendors effectively to ensure that PM &amp; repair costs are within control</p>
<b>Knowledge and Understanding</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization & its process relevant to area of responsibilities)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. OPCOs policies and standards followed by the company to maintain sites KA2. repair and maintenance guidelines of the company to save energy cost KA3. impact of OPEX (operating expenditure) on the company</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. basics of computers and MS excel KB2. importance of safety training for the individual</p>

TEL/N4107

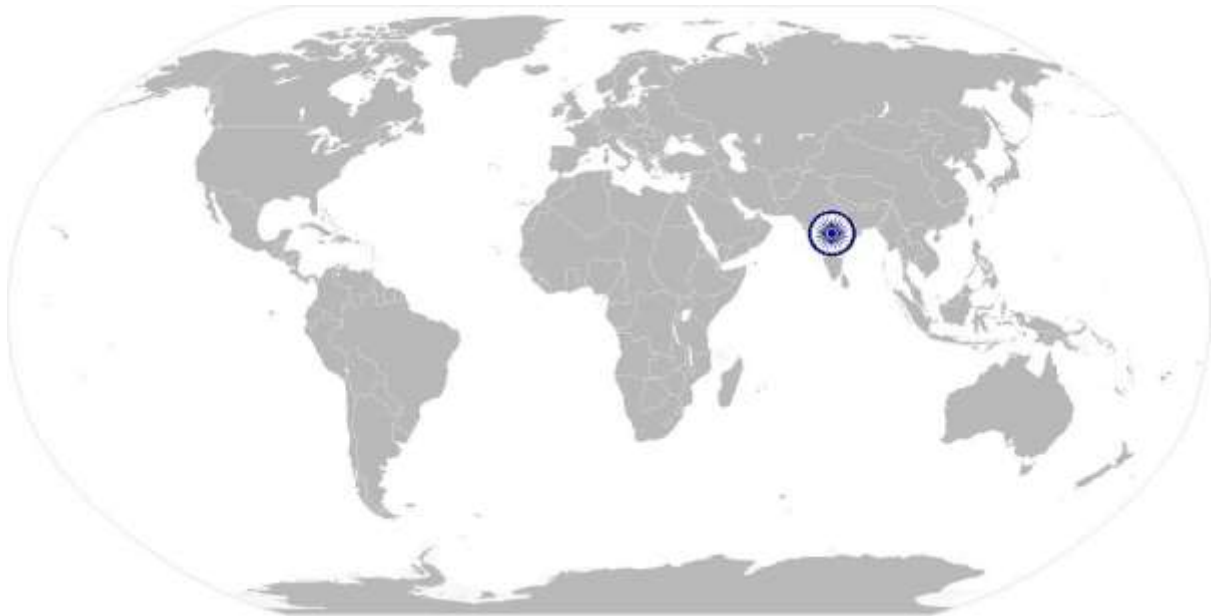
### OPEX management

Skills (S)	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	The user/ individual on the job needs to know and understand how to:  SA1. read and comprehend company policies and guidelines to maintain site standards SA2. read and comprehend repair and maintenance formats and checklists to save energy costs of the organization
	<b>Writing Skills</b>
	The user/individual on the job needs to know and understand how to:  SA3. publish complete and correct fault analysis report SA4. write an e-mail to share best practices performed by technicians, to increase of site up-time
<b>B. Professional Skills</b>	<b>Analytical Skills</b>
	The user/individual on the job needs to know and understand how to:  SB1. analyse recurring faults and quantum of spare components used SB2. analyse use of high value spares SB3. analyse day-to-day logs of fuel and energy consumption
	<b>Quality Maximization Skills</b>
	The user/individual on the job needs to know and understand how to:  SB4. implement various quality tools to reduce technical problems, minimize down-time and recurring faults
	<b>Financial Management Skills</b>
	The user/individual on the job needs to know and understand how to:  SB5. budget operating expenditure at the site
<b>Team Management Skills</b>	
The user/individual on the job needs to know and understand how to:  SB6. engage and enthuse technicians, to maintain site up-time	





# National Occupational Standard



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## Overview

This unit is about identifying and resolving site, landlord and infrastructure related issues.



TEL/N4108

**Identify and resolve issues**

Service Provider	<b>Unit Code</b>	TEL/N4108
	<b>Unit Title (Task)</b>	Identify and resolve issues
	<b>Description</b>	This OS unit is about identifying and resolving site, landlord and infrastructure related issues.
	<b>Scope</b>	<p>This unit/task covers the following:</p> <p>Key stakeholders:</p> <ul style="list-style-type: none"> <li>• site technicians</li> <li>• landlords</li> <li>• customers</li> </ul> <p>Identify and resolve issues</p>
	<b>Performance Criteria(PC) w.r.t. the Scope:</b>	
	<b>Element</b>	<b>Performance Criteria</b>
		<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. understand issues escalated by tower technicians and provide relevant solution</p> <p>PC2. identify and track the number of sites being locked</p> <p>PC3. interact with landlords to understand their issues and offer best solution</p>
<b>Knowledge and Understanding</b>		
<b>A. Organizational Context</b> (Knowledge of the company / organization & its process relevant to area of responsibilities)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. OPCOs policies and standards followed by the company to maintain sites</p> <p>KA2. significance of maintaining good relations with technician and landlord</p>	



TEL/N4108

### Identify and resolve issues

<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand:  KB1. lock site management process KB2. escalation matrix
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b> The user/ individual on the job needs to know and understand how to:  SA1. read and comprehend company polices and guidelines to maintain site standards
<b>B. Professional Skills</b>	<b>Analytical Skills</b> The user/individual on the job needs to know and understand how to:  SB1. analyze issues of technicians, landlords and vendors
	<b>Problem Resolving Skills</b> The user/individual on the job needs to know and understand how to:  SB2. resolve landlord, vendor and technician issues





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# National Occupational Standard



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## Overview

This unit is about corrective maintenance of DG, AC, PIU, SMPS, Battery Bank and Shelter, within defined SLA.



TEL/N4104

**Corrective Maintenance**

Service Provider	<b>Unit Code</b>	TEL/N4104
	<b>Unit Title (Task)</b>	Corrective Maintenance
	<b>Description</b>	This OS unit is about performing corrective maintenance activities.
	<b>Scope</b>	<p>This unit/task covers the following:</p> <p>Key stakeholders:</p> <ul style="list-style-type: none"> <li>• tower technician</li> <li>• cluster in-charge/supervisor</li> </ul> <p>Fill respective reports/check lists</p> <p>Follow the escalation matrix</p>
	<b>Performance Criteria(PC) w.r.t. the Scope:</b>	
	<b>Element</b>	<b>Performance Criteria</b>
		<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. timely identification of the need for corrective maintenance</p> <p>PC2. adhere to maintenance plan</p> <p>PC3. effective corrective maintenance on all equipment</p> <p>PC4. escalate faults/issues at site to supervisor</p> <p>PC5. fill the corrective maintenance checklists/reports</p> <p>PC6. close maximum number of faults reported</p>
	<b>Knowledge and Understanding</b>	
	<b>A. Organizational Context</b> (Knowledge of the company / organization & its process relevant to area of responsibilities)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. PM (preventive maintenance) norms as per the company</p> <p>KA2. corrective maintenance norms as per the company</p> <p>KA3. site up-time targets of the company, to avoid penalties</p> <p>KA4. repair and maintenance guidelines of the company</p>
	<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. functional knowledge of all equipment</p> <p>KB2. knowledge of all system components</p> <p>KB3. knowledge of special tools and equipment used for system repairs</p>

TEL/N4104

### Corrective Maintenance

Skills (S)	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	The user/ individual on the job needs to know and understand how to:  SA1. read and comprehend technical drawings and technical content
	<b>Oral communication Skills</b>
	The user/ individual on the job needs to know and understand how to:  SA2. communicate the issue/fault with complete details to the supervisor
<b>B. Professional Skills</b>	<b>Analytical Skills</b>
	The user/individual on the job needs to know and understand how to:  SB1. diagnose need for corrective maintenance based on system parameters and performance SB2. perform fault analysis to identify and repair/replace components which may lead to a fault
	<b>Planning and Execution</b>
	The user/individual on the job needs to know and understand how to:  SB1. prioritize to conduct corrective maintenance activities effectively





